

Aerospace System Engineering Technology at Metro State

Interested in a career in the Aerospace Industry?

NASA, as well as numerous aerospace companies such as Ball Aerospace and Lockheed Martin, anticipates a growing need for new workers with a strong background in engineering technology and project management at the bachelor's degree level. Metro is working in collaboration with the Community College of Denver, NASA, and others to prepare students with the varied skills they will need to be successful in this field.

This program is under development at Metro State. Students interested in pursuing a Bachelor's of Science (B.S.) in the field of Aerospace Systems Engineering Technology may do so through the Individualized Degree Program (IDP), allowing for a combination of suggested coursework across multiple departments with flexibility to meet the needs of the individual student.

If you are interested in becoming a professional in the Aerospace Industry working in areas such as space commercialization or exploration, then please contact our lead faculty advisors!

Students must work with a faculty advisor as well as an advisor from the Center for Individualized Learning to ensure that the proposed Individualized Degree Program meets their own needs and those of the industry.

Please contact:

- Center for Individualized Learning: 303-556-8342
- Dr. Jeff Forrest (forrestj@mscd.edu) Chair, Aviation & Aerospace Science Department, or
- Professor Jennifer Caine (cainej@mscd.edu) Co-Chair, Aviation & Aerospace Science Department, or
- Mr. Keith Norwood (norwoori@mscd.edu) Assoc. Professor, Department of engineering Technology

You must also attend an Information Session at the Center for Individualized Learning:

<http://www.mscd.edu/~cil/getstarted.shtml>

MSCD Aerospace System Engineering Technology

Please note: The courses taken by individual students will vary and will be agreed upon with the student's Faculty Mentor and Center Advisor. Courses with an XXXX course number are under development.

Recommended coursework for students entering MSCD as freshmen

Semester 1

CHE 1800 General Chemistry I (General Studies).....	4
MTH 1410 Calculus 1* (General Studies).....	4
ENG 1010 Freshman Composition: The Essay (General Studies).....	3
MET 1010 Manufacturing Processes	3
<i>Subtotal</i>	<i>14</i>

* has prerequisites not listed (MTH 1110 and MTH 1210)

Semester 2

MTH 2410 Calculus II	4
PHY 2311 General Physics I (General Studies)	4
PHY 2321 General Physics I Laboratory (General Studies)	1
ENG 1020 Freshman Composition: Analysis, Research & Documentation (Gen Studies) ..	3
MET 190B CSMARTS	
-or-	
AES 3600 Space Flight Operations I	3
<i>Subtotal</i>	<i>15</i>

Semester 3

PHY 2331 General Physics II	4
PHY 2341 General Physics II	1
AES 2050 Aviation History and Aerospace Development	3
ECO 2010 Principles of Economics – Macro (General Studies).....	3
MET 1310 Principles of Quality Assurance	3
Art & Letters elective (General Studies)	3
<i>Subtotal</i>	<i>17</i>

Semester 4

MET 2150 Mechanics I – Statics	3
History elective (General Studies).....	3
PHI 1030 Ethics (General Studies).....	3
SPE 1010 Public Speaking (General Studies)	3
COM 2610 Introduction to Technical Writing	3
<i>Subtotal</i>	<i>15</i>

Total for first 2 years (MSCD)64

Semester 5

MET 1200 Technical Drawing I	3
MET 2200 Materials of Engineering	3
MET 3160 Mechanics II – Dynamics	3
ECO 2020 Principles of Economics – Micro (General Studies).....	3
EET 2000 Electric Circuits and Machines	3
<i>Subtotal</i>	<i>15</i>

Semester 6

MET 3110 Thermodynamics	3
MET 3130 Mechanics of Materials	3
MET 3135 Mechanics of Materials – Laboratory	1
MET 3180 Fluids Mechanics I	3
AES 3000 Aircraft Systems and Propulsion	3
<i>Subtotal</i>	15

Semester 7

AES 4601 Space Flight Operations II	3
MET 3210 Introduction to Computer Aided Engineering	4
AES 3530 Aerodynamics	3
MET 4000 Project Engineering	3
MET XXXX Spacecraft Design I	3
<i>Subtotal</i>	15

Semester 8

AES 4602 Aerospace Commercialized Operations	3
AES 4603 Aerospace Operations Systems Analysis and Design	3
MET 3410 Geometric Dimensioning and Tolerances	3
AES XXXX Special Topics in Space Science – Senior Experience	3
MET XXXX Spacecraft Design II	3
<i>Subtotal</i>	15
Total	121

CCD-MSCD Pre-Aerospace Engineering 2+2

Recommended coursework for students completing first two years at CCD (MSCD equivalent in parenthesis)

Semester 1

CHE 111 General College Chemistry I: (CHE 1800 General Chemistry I – General Studies)	5
MAT 201 Calculus I: (MTH 1410 Calculus 1* - General Studies)	5
ENG 121 English Comp. I: (ENG 1010 Freshman Composition: The Essay – General Studies)	3
MTE 120 Manufacturing Processes: (MET 1010 Manufacturing Processes).....	3
<i>Subtotal</i>	16

* has prerequisites not listed

Semester 2

MAT 202 Calculus II: (MTH 2410 Calculus II)	5
PHY 211 Physics: Calc-Based I w/ Lab: (PHY 2311 Gen Physics I & PHY 2321 Phys Lab – Gen Studies)	5
ENG 122 English Comp. II: (ENG 1020 Freshman Comp: Anal, Research & Documentation – Gen Studies)	3
MET 190B** CSMARTS	
-or-	
AES 3600 Space Flight Operations I	3
<i>Subtotal</i>	16

Semester 3

PHY 212 Physics: Calc-Based II w/ Lab: (PHY 2331 Gen Physics II & PHY 2341 Gen Physics II Lab) ...5
HIS 242 Aviation History: (AES 2050 Aviation History & Aerospace Development)3
ECO 201 Principles of Macroeconomics: (ECO 2010 Prin. of Econ. – Macro).....3
MET 1210** Principles of Quality Assurance: (MET 1310 Principles of Quality Assurance).....3
 Arts & Humanities Elective (Arts & Letters General Studies)3
Subtotal17

Semester 4

EGG 271 Theoretical Mechanics – Statics: (MET 2150 Mechanics I – Statics)3
 History elective (General Studies)3
PHI 112 Ethics: (PHI 1030 Ethics – General Studies)3
SPE 115 Public Speaking: (SPE 1010 Public Speaking – General Studies)3
MAN 241 Project Management in Organizations: (COM 2610 Intro to Technical Writing).....3
Subtotal15

Total for first 2 years (CCD)64

Semester 5

MET 1200 Technical Drawing I3
MET 2200 Materials of Engineering3
MET 3160 Mechanics II – Dynamics3
ECO 2020 Principles of Economics – Micro (General Studies).....3
EET 2000 Electric Circuits and Machines3
Subtotal15

Semester 6

MET 3110 Thermodynamics3
MET 3130 Mechanics of Materials3
MET 3135 Mechanics of Materials – Laboratory1
MET 3180 Fluid Mechanics I3
AES 3000 Aircraft Systems and Propulsion3
Subtotal15

Semester 7

AES 4601 Space Flight Operations II3
MET 3210 Introduction to Computer Aided Engineering4
AES 3530 Aerodynamics3
MET 4000 Project Engineering3
MET XXXX Spacecraft Design I3
Subtotal15

Semester 8

AES 4602 Aerospace Commercialized Operations3
AES 4603 Aerospace Operations Systems Analysis and Design3
MET 3410 Geometric Dimensioning and Tolerances3

AES XXXX Special Topics in Space Science – senior exp.	3
MET XXXX Spacecraft Design II	3
<i>Subtotal</i>	<i>15</i>
Total	124